

ABSTRACT OF THE DISCLOSURE

The present invention provides a process whereby fluorine atom-containing sulfonyl fluoride compound(s) useful as e.g. materials for ion-exchange membranes, can be produced efficiently and at low cost without structural limitations while solving the difficulties in production.

Namely, the present invention provides a process which comprises reacting $\text{XSO}_2\text{R}^{\text{A}}-\text{E}^1$ (1) with $\text{R}^{\text{B}}-\text{E}^2$ (2) to form $\text{XSO}_2\text{R}^{\text{A}}-\text{E}-\text{R}^{\text{B}}$ (3), then reacting (3) with fluorine in a liquid phase to form $\text{FSO}_2\text{R}^{\text{AF}}-\text{E}^{\text{F}}-\text{R}^{\text{BF}}$ (4), and further, decomposing the compound to obtain $\text{FSO}_2\text{R}^{\text{AF}}-\text{E}^{\text{F1}}$ (5), wherein R^{A} is a bivalent organic group, E^1 is a monovalent reactive group, R^{B} is a monovalent organic group, E^2 is a monovalent reactive group which is reactive with E^1 , E is a bivalent connecting group formed by the reaction of E^1 with E^2 , R^{AF} is a bivalent organic group formed by the fluorination of R^{A} , etc., R^{BF} is the same group as R^{B} , etc., E^{F} is a bivalent connecting group formed by the fluorination of E , etc., E^{F1} is a monovalent group formed by the decomposition of E^{F} , and X is a halogen atom.